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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,043	02/06/2002	Curtis R. Priem	P000449/1308C	4191

7590 05/06/2005

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EXAMINER

WANG, JIN CHENG

ART UNIT PAPER NUMBER

2672

DATE MAILED: 05/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/072,043

Applicant(s)

PRIEM, CURTIS R.

Examiner

Jin-Cheng Wang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

The amendment filed on 11/17/2004 has been entered. Claim 1 has been amended.

Claims 1-54 are pending in the application.

### ***Response to Arguments***

Applicant's arguments filed November 17, 2004 have been fully considered but are not found persuasive in view of the ground(s) of rejection set forth in the last Office Action.

As address below, the Claim 1 is unpatentable over Lobodzinski U.S. Patent No. 5,734,873 (hereinafter Lobodzinski) in view of U.S. Patent No. 5,999,199 (hereinafter Larson).

For example, Lobodzinski lacks an explicit disclosure of the register file 46 and the graphics engine 48 being integrated in a single chip and therefore is silent to the claim limitation of "the graphics controller comprising a second memory dedicated to holding information read from the font array."

However, Larson teaches a graphics controller (e.g., the graphics processor 100 of Larson Figs. 4-5) including a graphics engine (3D engine 150 of Larson Fig. 5) and Register File 135 and therefore the register file and the graphics engine has been integrated in a single chip.

It would have been obvious to have incorporated the Larson's teaching of a single chip design of the graphics controller including the register file and the graphics engine. Lobodzinski teaches both a register file 46 and a graphics engine 48 within the display controller 30 (See Lobodzinski Fig. 2) wherein the register file can be integrated into the graphics engine in a single chip design according to Larson (See Larson Fig. 4-5). Thus, The combination of Larson with

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Lobodzinski teaches the claim limitation of the graphics controller (formed by the graphics engine 48 and the register file 46 in a single chip design) comprising a second memory (Text engine registers) dedicated to holding information (character font information and character string information including the font address array; see Lobodzinski column 3-5 and Table I) read from the font array (the font array stored with the frame buffer; see Lobodzinski Figs. 3A and 4A).

One of the ordinary skill in the art would be motivated to do this because register file and the graphics engine can be integrated into the graphics controller in a single chip design (Larson Figs. 4-5).

Applicant argues that, "Lobodzinski and Larson, alone or in combination, do not show or suggest a second memory 'dedicated to holding information read from the font array.'"

However, Lobodzinski teaches both a register file 46 and a graphics engine 48 within the display controller 30 (See Lobodzinski Fig. 2) wherein the register file is integrated into the graphics engine in a single chip design according to Larson (See Larson Fig. 4-5). Thus, The combination of Larson with Lobodzinski teaches the claim limitation of the graphics controller (formed by the graphics engine 48 and the register file 46 in a single chip) comprising a second memory (Text engine registers) dedicated to holding information (character font information and character string information including the font address array; see Lobodzinski column 3-5 and Table I) read from the font array (the font array stored with the frame buffer; see Lobodzinski Figs. 3A and 4A). One of the ordinary skill in the art would be motivated to do this because register file and the graphics engine is integrated into the graphics controller in a single chip design (Larson Figs. 4-5).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lobodzinski U.S. Patent No. 5,734,873 (hereinafter Lobodzinski) in view of U.S. Patent No. 5,999,199 (hereinafter Larson).

1. Claim 1:

Lobodzinski teaches a system for rendering fonts (see figure 1 of the reference, column 1, lines 53-67, column 2, lines 1-6, column 2, lines 40-57) the system comprising:

A first memory (e.g., frame buffer 56 of figure 2; column 2, lines 58-67; column 3, lines 1-10) having stored therein a data structure (e.g., figures 3-7, column 3, lines 11-33; column 4, lines 1-4), the data structure including at least one font array (e.g., font 1 of reference sign 62a and font 2 of reference sign 62b of figure 3 in the reference); and

A graphics controller (e.g. the graphics controller 30 of figure 2) coupled to the first memory (e.g., the frame buffer memory 56; see column 3, lines 4-5), the graphics controller accessing a font array of the data structure (e.g., figure 2, 3A and 4A).

Lobodzinski lacks an explicit disclosure of the register file 46 and the graphics engine 48 being integrated in a single chip and therefore is silent to the claim limitation of "the graphics

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controller comprising a second memory dedicated to holding information read from the font array.”

However, Larson teaches a graphics controller (e.g., the graphics processor 100 of Larson Figs. 4-5) including a graphics engine (3D engine 150 of Larson Fig. 5) and Register File 135 and therefore the register file and the graphics engine has been integrated in a single chip.

It would have been obvious to have incorporated the Larson’s teaching of a single chip design of the graphics controller including the register file and the graphics engine. Lobodzinski teaches both a register file 46 and a graphics engine 48 within the display controller 30 (See Lobodzinski Fig. 2) wherein the register file can be integrated into the graphics engine in a single chip design according to Larson (See Larson Fig. 4-5). Thus, The combination of Larson with Lobodzinski teaches the claim limitation of the graphics controller (formed by the graphics engine 48 and the register file 46 in a single chip design) comprising a second memory (Text engine registers) dedicated to holding information (character font information and character string information including the font address array; see Lobodzinski column 3-5 and Table I) read from the font array (the font array stored with the frame buffer; see Lobodzinski Figs. 3A and 4A).

One of the ordinary skill in the art would be motivated to do this because register file and the graphics engine can be integrated into the graphics controller in a single chip design (Larson Figs. 4-5).

Claim 2:

The claim 2 encompasses the same scope of the invention as that of claim 1 except additional claimed limitation of “a frame buffer.” However, Lobodzinski further discloses claimed invention of a frame buffer (e.g., reference numeral 56 of figure 2).

Claim 3:

The claim 2 encompasses the same scope of the invention as that of claim 1 except additional claimed limitation of “a system memory.” However, Lobodzinski further discloses claimed invention of a system memory (e.g., reference numeral 24 of figure 1 or reference numeral 56 of figure 2).

Claim 4:

The claim 4 encompasses the same scope of the invention as that of claim 1 except additional claimed limitation of “a plurality of characters.” However, Lobodzinski further discloses claimed invention that font 1 comprises a plurality of characters C0-C256 and font 2 comprises a plurality of characters C0-C96 (e.g., figure 3A). Therefore, the claim 4 is rejected for the reason as set forth above.

Claim 5:

The claim 5 encompasses the same scope of the invention as that of claim 4 except additional claimed limitation of “each of the characters comprises one bit per pixel.” However, Lobodzinski further discloses claimed invention that each of the characters C0-C256 comprises

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one bit per pixel (e.g., figure 3A). Therefore, the claim 5 is rejected for the reason as set forth above.

Claim 6:

The claim 6 encompasses the same scope of the invention as that of claim 4 except additional claimed limitation of “each of the characters comprises a plurality of bits per pixels.” However, Lobodzinski further discloses claimed invention that each of the characters C0-C256 comprises a plurality of bits per pixel (e.g., figure 3B). Therefore, the claim 6 is rejected for the reason as set forth above.

Claim 7:

The claim 7 encompasses the same scope of the invention as that of claim 1 except additional-claimed limitation of “at least one font array comprises a plurality of font arrays.” However, Lobodzinski further discloses claimed invention that at least one font array comprises a plurality of font arrays (e.g., figure 4A). Therefore, the claim 7 is rejected for the reason as set forth above.

Claim 8:

The claim 8 encompasses the same scope of the invention as that of claim 7 except additional claimed limitation of “each of the plurality of font arrays includes a plurality of characters.” However, Lobodzinski further discloses claimed invention that each of the plurality



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of font arrays includes a plurality of characters (e.g., figures 3B and 4B). Therefore, the claim 8 is rejected for the reason as set forth above.

Claim 9:

The claim 9 encompasses the same scope of the invention as that of claim 8 except additional claimed limitation of “characters within different font arrays can be different sizes.” However, Lobodzinski further discloses claimed invention that characters within different font arrays can be different sizes (e.g., figures 4B and 5). Therefore, the claim 9 is rejected for the reason as set forth above.

Claim 10:

The claim 10 encompasses the same scope of the invention as that of claim 9 except additional claimed limitation of “each of the characters comprises a bit per pixel.” However, Lobodzinski further discloses claimed invention that each of the characters comprises a bit per pixel (e.g., figures 4B and column 4, lines 5-21). Therefore, the claim 10 is rejected for the reason as set forth above.

Claim 11:

The claim 11 encompasses the same scope of the invention as that of claim 9 except additional claimed limitation of “each of the characters comprises a plurality of bits per pixel.” However, Lobodzinski further discloses claimed invention that each of the characters comprises a plurality of bits per pixel (e.g., column 5, lines 54-65). Therefore, the claim 11 is rejected for the reason as set forth above.

Claim 12:

The claim 12 encompasses the same scope of the invention as that of claim 9 except additional claimed limitation of “each of the characters includes size height information.” However, Lobodzinski further discloses claimed invention that each of the characters includes size height information (e.g., column 6, lines 60-65). Therefore, the claim 13 is rejected for the reason as set forth above.

Claim 13:

The claim 13 encompasses the same scope of the invention as that of claim 9 except additional claimed limitation of “each of the characters includes size width information.” However, Lobodzinski further discloses claimed invention that each of the characters includes size width information (e.g., column 6, lines 60-65). Therefore, the claim 13 is rejected for the reason as set forth above.

2. Claim 14:

The claim 14 encompasses the same scope of the invention as that of claim 7 except additional claimed limitation that “the graphics controller comprises a set of registers for utilizing the information within the plurality of font arrays such that font characters can be efficiently retrieved and rendered.” However, Lobodzinski further discloses claimed invention in figure 2 where the graphics engine comprises a set of registers inside BLT ENGINE 50, TEXT ENGINE 52 and OTHER ENGINE 54 (e.g., figure 2, TABEL I, column 4, lines 30-33, column 5, lines 33-49, column 7, lines 1-59 and column 9, lines 5-25). It is further noted that elements of the graphics controller shown in discrete components in the reference can be combined in a variety of fashions and should be still within the scope of Lobodzinski’s invention, e.g., the

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register file 46 could be integrated with the graphics engine 48 and can be included in the graphics controller as taught by Larson. Therefore, the claim 14 is rejected for the reason as set forth above.

Claim 15:

The claim 15 encompasses the same scope of the invention as that of claim 14 except additional claimed limitation of “the set of registers includes a font pointer register.” However, Lobodzinski further discloses claimed invention that the set of registers includes a font pointer register (e.g., figure 2, TABELLE I, column 4, lines 30-33, column 5, lines 33-49, column 7, lines 1-59 and column 9, lines 5-25). The Examiner interprets the text font address register as a font pointer register in the claimed invention because the reference teaches that the font address register *points* to an address of the character font set. Therefore, the claim 15 is rejected for the reason as set forth above.

Claim 16:

The claim 16 encompasses the same scope of the invention as that of claim 14 except additional claimed limitation of “the set of registers includes a font pitch register.” However, Lobodzinski further discloses claimed invention that the set of registers includes a font pitch register (e.g., figure 2, TABELLE I, column 4, lines 30-33, column 5, lines 33-49, column 7, lines 1-59 and column 9, lines 5-25). The Examiner interprets the TXE Command Reg1 register as a font pitch register in the claimed invention because the TXE Command Reg1 register has bits information (5-3) of font pitch. Therefore, the claim 16 is rejected for the reason as set forth above.

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## Claim 17:

The claim 17 encompasses the same scope of the invention as that of claim 14 except additional claimed limitation of “the set of registers includes an index register.” However, Lobodzinski further discloses claimed invention that the set of registers includes an index register (see figure 2, TABELE I, column 4, lines 30-33, column 5, lines 33-49, column 7, lines 1-59 and column 9, lines 5-25). The Examiner interprets the TXE String Address register as an index register in the claimed invention that stores address of *character indexes*. Therefore, the claim 17 is rejected for the reason as set forth above.

## Claim 18:

The claim 18 encompasses the same scope of the invention as that of claim 14 except additional claimed limitation of “a horizontal information register.” However, Lobodzinski further discloses claimed invention of a horizontal information register (see figure 2, TABELE I, column 4, lines 30-33, column 5, lines 33-49, column 7, lines 1-59 and column 9, lines 5-25). The Examiner interprets the TXE Destination X register as a horizontal information register in the claimed invention because the TXE Destination X register stores onscreen X location (horizontal location) for text string to be drawn in accordance with the table 1 of the Lobodzinski reference. Therefore, the claim 18 is rejected for the reason as set forth above.

## Claim 19:

The claim 19 encompasses the same scope of the invention as that of claim 14 except additional claimed limitation of “a vertical information register.” However, Lobodzinski further discloses claimed invention of a vertical information register (see figure 2, TABELE I, column 4, lines 30-33, column 5, lines 33-49, column 7, lines 1-59 and column 9, lines 5-25). The Office

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interprets the TXE Destination Y register as a vertical information register in the claimed invention because the TXE Destination Y register stores onscreen Y location (vertical location) for text string to be drawn in accordance with the table 1 of the Lobodzinski reference. Therefore, the claim 18 is rejected for the reason as set forth above.

## Claim 20:

The claim 20 encompasses the same scope of the invention as that of claim 14 except additional claimed limitation of “a linear information register.” However, Lobodzinski further discloses claimed invention of a linear information register (see figure 2, TABELLE I, column 4, lines 30-33, column 5, lines 33-49, column 7, lines 1-59 and column 9, lines 5-25). The Examiner interprets the TXE String Address register or TXE Font Address register as a linear information register in the claimed invention because any of two registers stores *linear* dword address. Therefore, the claim 20 is rejected for the reason as set forth above.

## Claim 21:

The claim 21 encompasses the same scope of the invention as that of claim 14 except additional claimed limitation of “a glyph information register which holds character information retrieved by the graphics controller based upon the font pointer register.” However, Lobodzinski further discloses claimed invention of a glyph information register (see figure 2, TABELLE I, column 4, lines 30-33, column 5, lines 33-49, column 7, lines 1-59 and column 9, lines 5-25).

## Claim 22:

The claim 22 encompasses the same scope of the invention as that of claim 14 except additional claimed limitation of “a glyph information register which holds character information retrieved by the graphics controller based upon the font pitch register.” However, Lobodzinski

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further discloses claimed invention of a glyph information register (see figure 2, TABELE I, column 4, lines 30-33, column 5, lines 33-49, column 7, lines 1-59 and column 9, lines 5-25).

Claim 23:

The claim 23 encompasses the same scope of the invention as that of claim 14 except additional claimed limitation of “a glyph information register which holds character information retrieved by the graphics controller based upon the index register.” However, Lobodzinski further discloses claimed invention of a glyph information register (see figure 2, TABELE I, column 4, lines 30-33, column 5, lines 33-49, column 7, lines 1-59 and column 9, lines 5-25).

Claim 24:

The claim 24 encompasses the same scope of the invention as that of claim 14 except additional claimed limitation of “a size width register.” However, Lobodzinski further discloses claimed invention of a size width register (see figure 2, TABELE I, column 4, lines 30-33, column 5, lines 33-49, column 7, lines 1-59 and column 9, lines 5-25). The Examiner interprets the TXE Character Count register as a size width register in the claimed invention because the reference teaches that TXE Character Count register is the same as BLT width register and stores the number of text glyphs to be drawn. Therefore, the claim 20 is rejected for the reason as set forth above.

Claim 25:

The claim 25 encompasses the same scope of the invention as that of claim 14 except additional claimed limitation of “a size height register.” However, Lobodzinski further discloses claimed invention of a size height register (see figure 2, TABELE I, column 4, lines 30-33, column 5, lines 33-49, column 7, lines 1-59 and column 9, lines 5-25). The Examiner interprets

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the TXE Height register as a size height register in the claimed invention because the reference teaches that TXE Height register is the same as BLT height register and stores the number of scan-lines of text to be drawn. Therefore, the claim 20 is rejected for the reason as set forth above.

3. Claim 26:

The claim 26 is a rephrasing of claim 1 in a method form. The claim 26 is rejected for the same reason as set forth in claim 1.

Claims 27-36:

Claims 27-36 is a rephrasing of claims 2-11 in a method form. The claim is rejected for the same reason as set forth respectively in claims 2-11.

Claims 37-43:

Claims 37-43 is a rephrasing of claims 14-20 in a method form. The claim is rejected for the same reason as set forth respectively in claims 14-20.

Claims 44-47:

Claims 44-47 is a rephrasing of claims 22-25 in a method form. The claim is rejected for the same reason as set forth respectively in claims 22-25.

Claims 48-54:

Claims 48-54 encompass the same scope of invention as that of claims 1-19. The claims are rejected for the same reason as set forth in claims 1-19.

*Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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jcw



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